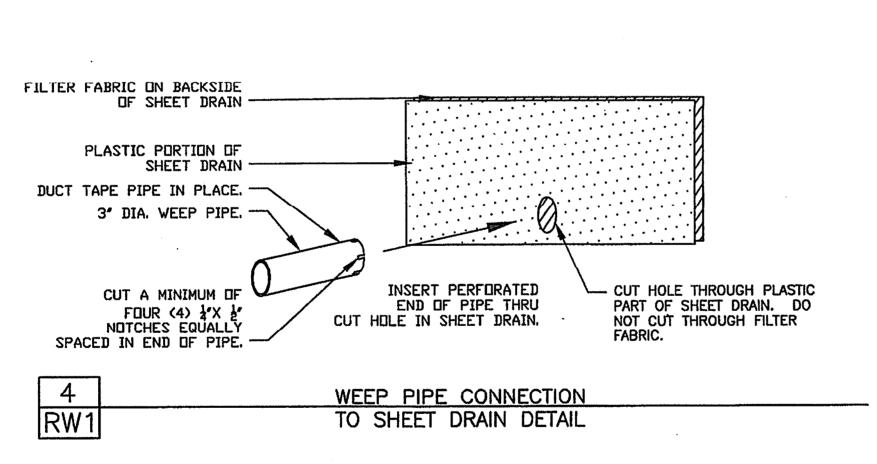
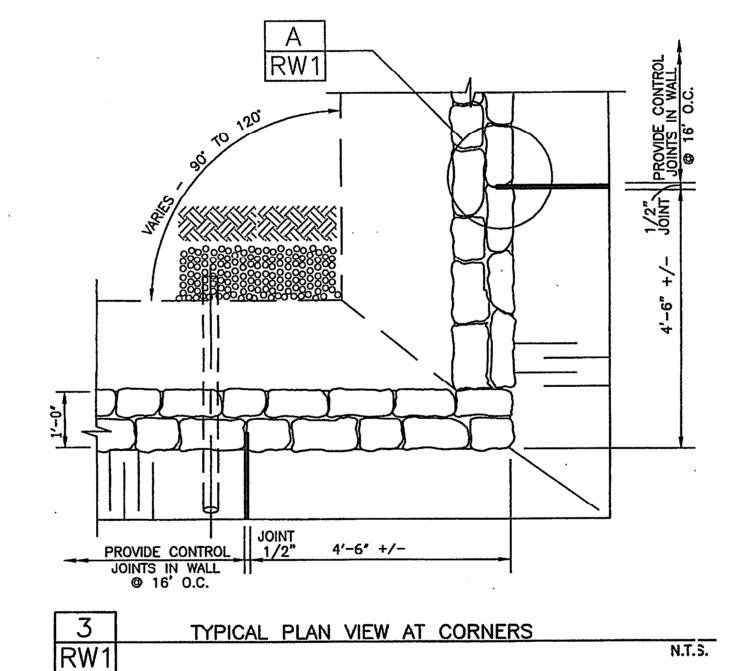


1 WALL SECTION W/HANDRAIL POST

CONTRACTOR OPTION





## 1. Design Building Code

International Building Code, 2006 Edition

### 2. Geotechnical Report

Firm:	Rone Engineering, Inc_		
Report No	07-13278	Dated:	August 9, 2007
Allowable Bear	ing Capacity	1500 psf	
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All of the above noted bearing capacities are anticipated throughout the site. Each wall section has a design for multiple bearing capacity options. It will be field verified which bearing condition to use based on the conditions of the soil at the base of the wall during excavation. If the bearing capacity changes along the length of the retaining wall it is permitted to change bearing capacity designs as needed.

### 3. Geotechnical Criteria

Bearing on Stiff Natural Undisturbed Clayey Solls or Compacted and Tested Solls

Allowable Bearing = 1500 psf, min.

Friction Angle between Base of Wall and Soil - 17 deg

Backfill Soil Parameters:

Backfill Soil - Natural Clays or Fill Solls

Backfill Angle of Internal Friction PHI = 26 deg

Base Soil Parameters:
Soil at Toe - Natural, Undisturbed or Fill Soils
Angle of Internal Friction PHI = 26 deg

The backfill soil angle of internal friction referred to above is a composite angle of internal friction and includes both cohesion and angle of internal friction of the soils. The composite angle of internal friction is taken as 2 times the angle of internal friction of the soil in the fully softened condition. The fully softened angle of internal friction is taken as 13 degrees, resulting in a design backfill angle of internal friction of 26 degrees.

The use of very wet or very dry backfill soil should be avoided. The use of heavy equipment within 3'-0" of the wall could damage the wall and should be avoided.

Locate base of walls on undisturbed or properly compacted soil.

#### 4. Materials:

Average density of masonry stone wall varies from 135 pcf to 145 pcf.

#### Portland Cement Mortar for Retaining Wall Construction.

The portland cement mortar used for construction of the masonry stone retaining walls shall be provided with the following proportions per cubic yard of concrete. The portland cement mortar supplier shall provide "batch tickets" clearly indicating that the appropriate amount of materials are provided in each concrete mixer truck load. The batch tickets shall clearly indicate the amount batched, the date, the project name and shall be provided to Falkofske Engineering, Inc. for review, documentation, and file.

Contents	Amount per cubic yard		
Type 1 Portland cement:	376 I	bs	
Type F Fly Ash	94 1	bs	
Fine Aggregate (sand):	3250	bs	
Potable Water		bs	
Admixture Eucon 100	48	oz averag	

Concrete retarders such as "Eucon 100 Retarder" may be used at the discretion of the masonry wall contractor. A greater amount of retarder (about 64 ounces) is typically used during hot periods and a less amount of retarder (about 32 ounces) is typically used during cool weather.

Please note that the above proportions will provide a portland cement mortar with a compressive strength of about fc = 2500 psl. Falkofske Engineering, Inc. does not require any concrete testing provided the above proportions are verified by way of the "batch tickets".

# 5. Construction Reviews

Falkofske Engineering, Inc. shall be called for construction review of masonry wall.

# 6. Retaining Wall Design Constraint

Retaining walls should not have solid fence placed on top of wall other than that shown on these plans.

Retaining walls shall not have additional surcharge placed above wall other than that shown on these plans.

Retaining walls shall not have slope at base or top of wall that exceed that which is shown on these plans.

The retaining walls noted above require special design.

Minor variations in the construction of the retaining walls from these documents may be accepted at the discretion of the design engineer.

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	Structural Engineering Consultants
	Texas Registered Engineering Firm: # F-4038
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	Metro (817) 261-8300

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